

05-GF-113  
(5760)

*Handwritten initials*

**Office**  
265 N 3rd Ave  
PO Box 12  
Stratford WI 54484-0012  
715-687-4166



**Shop**  
212 S 3rd Ave  
PO Box 12  
Stratford WI 54484-0012  
715-687-4118

January 23, 2003

COMMUNICATIONS SERVICE  
DIVISION

Mr. Jim Loock, Chief Electric Engineer  
Public Service Commission  
610 N. Whitney Way  
P.O. Box 7854  
Madison, WI 53707-7854

RE: In the Matter of Filing Reporting Requirements for Appropriate Inspection and Maintenance, PSC Rule 113.0607(6)

Dear Mr. Loock:

Enclosed for filing are 3 copies of Stratford Water & Electric Utility's report to the commission, submitted every two years, showing compliance with its Preventative Maintenance Plan.

Very truly yours,

Jerry Frodl  
Superintendent

Enclosures

RECEIVED  
Electric Division

**TWO YEAR REPORT DOCUMENTING  
COMPLIANCE WITH THE  
PREVENTATIVE MAINTENANCE PLAN**

**Stratford Water & Electric Utility**

**FILING DEADLINE  
FEBRUARY 1, 2003**

December 19, 2000

Jerry Frodl  
212 S Third Ave  
PO Box 12  
Stratford WI 54484-0012  
715-687-4118  
pubworks@tznet.com

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JAN 2 2003

Electric Division

This report format was prepared by the MEUW work group for PSC Rule 113.0607 for use by the 82 municipal electric utilities in Wisconsin and endorsed by PSC staff as meeting the requirements of Rule PSC 113.0607.

**I Reporting Requirements:** PSC 113.0607(6) states;

Each utility shall provide a periodic report to the commission showing compliance with its Preventative Maintenance Plan. The report shall include a list of inspected circuits and facilities, the condition of facilities according to established rating criteria, schedules established and success at meeting the established schedules.

**II Inspection Schedule and Methods:**

SCHEDULE:	MONTHLY	ANNUAL	EVERY 5 YEARS
Transmission ( 69Kv)		X	X
Substations	X	X	
Distribution (OH & UG)			X

METHODS: Five criteria groups will be used to complete the inspection of all facilities.

1. IR – infrared thermography used to find poor electrical connections and/or oil flow problems in equipment.
2. RFI - Radio Frequency Interference, a byproduct of loose hardware and connections, is checked using an AM radio receiver.
3. SI – structural integrity of all supporting hardware including poles, crossarms, insulators, structures, bases, foundations, buildings, etc.
4. Clearance – refers to proper spacing of conductors from other objects, trees and conductors.
5. EC – equipment condition on non-structural components such as circuit breakers, transformers, regulators, reclosers, relays, batteries, capacitors, etc.

Distribution facilities will be inspected by substation circuits on a 5 year cycle such that the entire system will be inspected every 5 years. Inspector instructions for inspecting all facilities and forms are included in the plan.

**III Condition Rating Criteria**

This criterion, as listed below, establishes the condition of a facility and also determines the repair schedule to correct deficiencies .

- 0) Good condition
- 1) Good condition but aging
- 2) Non-critical maintenance required – normally repair within 12 months
- 3) Priority maintenance required – normally repair within 90 days
- 4) Urgent maintenance required – report immediately to the utility and repair normally within 1 week

**IV Corrective Action Schedule**

The rating criteria as listed above determine the corrective action schedule.

**V Record Keeping**

All inspection forms and records will be retained for a minimum of 10 years. The inspection form contains all of the required critical information i.e. inspection dates, condition rating, schedule for repair and date of repair completion.

**VI Reporting Requirements**

A report and summary of this plan’s progress will be submitted every two years with the first report due to the Commission by February 1, 2003. The report will consist of a cover letter documenting the percent of inspections achieved compared to the schedule and the percent of maintenance achieved within the scheduled time allowance.

**VII Inspected Circuits and Facilities**

Circuit # and description	Substation
North – North Street circuit	N/A
South – 153 Circuit	N/A

Base load and peaking generation, less than 50 megawatts per unit in size, is typically subject to pre-operational checks, in addition to checks and maintenance during and after periods of operation.

**VIII Scheduling Goals Established and Success of Meeting the Criteria:**

The Utility’s Maintenance Plan provides for inspection of all the distribution system on a five-year cycle. The Plan also provides for completing all scheduled maintenance resulting from the inspections within the prescribed time period specified in the rating criteria.

All inspection goals were met during the 2001-2002 two-year period. Approximately an additional 20% of the system was inspected since January 1, 2001 with the emphasis on tree trimming on the old 4 kV areas. Inspected the 4 kV areas east on Highway 153 for condition of the poles,

crossarm guying and transformers. No urgent maintenance items were found. The inspections found the following items:

Line clearance inspection indicated non-critical tree trimming was required in the 4 kV areas.

This line clearance inspection led to a program to complete all necessary tree trimming on the lines in the 4 kV areas.

Line inspection of the 4 kV area east on Highway 153 indicated a five span single-phase line was in marginal condition.

This line inspection resulted in converting the overhead line to underground to eliminate bad poles and crossarms.

## **IX Facility condition – rating criteria:**

The utility continued on the long-range plan to convert the old 4 kV system to 24.9 kV operation. The Utility converted ten spans of three-phase line and two spans of single-phase line to eliminate marginal pole and crossarms, replace very old transformers, and to serve new load in the area involved. All preventative maintenance was completed as part of the conversion. The Utility plans on completing the remaining 4 kV in the next 4 – 5 years.

MAP AREA	STRUCTURE										EQUIPMENT					IR / RFI Scan		COMMENTS	Date Item Corrected	Corrected By
	Enclosure Condition	Level / Leaning	Security	Grade / Accessibility	Numbering	Voids / Gaps	Signage	Pad / Vault Condition	Transformers , Leaks, Bushings, Grounding,Bonds,Elbows, Arrestors, Cable cond, Connections	Primary Pedestals, Elbows, Grounding, Bonds,Junction cond.	Secondary Pedestals , Connectors	Switches , Sknags, Insulators, Security, Linkage, Ground, Bonds	Main Three Phase Feeders , Risers & Switchgear	Priority URD Transformers , Bushings and Tank heating						
66BB15	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A				
66AA25	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A				
66BB25	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A				
66AA35	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A				
66AA14	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A				
66AA24	0	0	0	2	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A				
66AA34	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A				
66DD43	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A				
66BB33	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A				
66AA33	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A				
?	0	0	0	0	2	0	0	0	0	0	0	N/A	N/A	0	N/A	N/A				
66BB32	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A				
?	0	0	0	0	2	0	0	0	0	0	0	N/A	N/A	0	N/A	N/A				
66AA32	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A				
?	0	0	0	0	2	0	0	0	0	0	0	N/A	N/A	0	N/A	N/A				
66CC31	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A				
?	0	0	0	0	2	0	0	0	0	0	0	N/A	N/A	0	N/A	N/A				

UNDERGROUND DISTRIBUTION INSPECTION FORM Date 01-08-03 Inspected by J. Frodl Sub N/A Circuit 153 East

MAP AREA	STRUCTURE										EQUIPMENT					IR / RFI Scan		COMMENTS	Date Item Corrected	Corrected By					
	Enclosure Condition	Level / Leaning	Security	Grade / Accessibility	Numbering	Voids / Gaps	Signage	Pad / Vault Condition	Transformers, Leaks, Bushings, Grounding, Bonds, Elbows, Arrestors, Cable cond, Connections	Primary Pedestals, Elbows, Grounding, Bonds, Junction cond.	Secondary Pedestals, Connections	Switches, Signage, Insulators, Security, Linkage, Ground, Bonds	Main Three Phase Feeders, Risers & Switchgear	Priority URD Transformers, Bushings and Tank heating											
68CC15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A							
68EE15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A							
56BB64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A							
?	0	0	0	0	2	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A							
68AA48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A							

- Rating Criteria
- 0) Good Condition
  - 1) Good Condition but aging
  - 2) Non-critical Maintenance Required
  - 3) Priority Maintenance Required
  - 4) Urgent Maintenance Required

MAP AREA	STRUCTURE										EQUIPMENT				IR / RFI Scan		COMMENTS	Date Item Corrected	Corrected By
	Enclosure Condition	Level / Leaning	Security	Grade / Accessibility	Numbering	Voids / Gaps	Signage	Pad / Vault Condition	Transformers, Leaks, Bushings, Grounding, Bonds, Elbows, Arrestors, Cable cond, Connections	Primary Pedestals, Elbows, Grounding, Bonds, Junction cond.	Secondary Pedestals, Connectors	Switches, Signage, Insulators, Security, Linkage, Ground, Bonds	Main Three Phase Feeders, Risers & Switchgear	Priority URD Transformers, Bushings and Tank heating					
?	0	0	0	0	2	0	2	N/A	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	No number	No warning sign	
?	0	0	0	0	2	0	2	N/A	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	No number	No warning sign	
?	0	0	0	0	2	0	0	N/A	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	No number	No warning sign	
?	0	0	0	0	2	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	No number		
67AA25	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A			
67BB16	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A			
67BB6	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A			
?	0	0	0	0	2	0	2	N/A	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	No number	No warning sign	
?	0	0	0	0	2	0	2	0	0	0	0	N/A	N/A	N/A	N/A	N/A	No number		
?	0	0	0	0	2	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	No number		
?	0	0	0	0	2	0	2	0	0	0	0	N/A	N/A	N/A	N/A	N/A	No number		
?	0	0	0	0	2	0	2	0	0	0	0	N/A	N/A	N/A	N/A	N/A	No number		



# OVERHEAD DISTRIBUTION INSPECTION FORM

Date 01-06-03 Inspected by J. Frodl Sub N/A Ckt 153 East

MAP AREA	STRUCTURE													EQUIPMENT				CLEARANCE				COMMENTS	Date Item Corrected	Corrected By				
	Pole Condition/Leaning	Crossarm Condition	Insulators, DE, Pin	Soil Conditions	Pole Steps	Grounds Intact, Molding	Down Guys and Markers	Guy Bond, Insulator	Signs, Lock, Warning	Customer Equipment	Conductor and Ties	U-Guard/Conduit Cond	RFI Check	Transformer	Switches	Cutouts	Arresters	Terminators	Street Light	Tree Trimming	Ground Line Clearances				Building Clearances	Streets, Roads, Alleys	Communication Clearance	
68AA3	0	0	0	0	NA	0	0	0	0	0	0	0	0	NA	0	0	0	NA	NA	0	0	0	0	0	0	No warning sign		
68AA2	0	NA	0	0	NA	NA	NA	2	0	0	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	No warning sign		
58AA71	0	NA	0	0	NA	0	0	0	0	0	0	0	0	NA	0	0	0	NA	NA	0	0	0	0	0	0			
68AA1	0	NA	0	0	NA	0	0	2	0	0	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	No warning sign		
57BB78	0	NA	NA	0	NA	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	0	2	0	0	0	0	0	Not proper clearance		
57CC78	0	NA	NA	0	NA	2	0	2	0	0	0	0	0	NA	NA	NA	NA	NA	NA	2	0	0	0	0	0	" Guy missing marker, No warning sign		
67CC8	0	NA	0	0	NA	0	0	2	0	0	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	No warning sign		
67AA18	0	0	0	0	NA	0	0	2	0	0	0	0	0	NA	0	0	0	NA	NA	0	0	0	0	0	0	No warning sign Check oil		
67BB18	0	0	0	0	NA	0	0	2	0	0	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	No warning sign		
68AA11	0	0	0	0	NA	NA	NA	2	0	0	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	No warning sign		
68CC12	0	0	0	0	NA	0	2	0	2	0	0	0	0	NA	0	0	0	NA	NA	0	0	0	0	0	0	No warning sign		
68AA12	0	0	0	0	NA	0	0	2	0	0	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	No guy marker No warning sign		
68BB12	0	0	0	0	NA	0	2	0	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	No warning sign		
67AA38	0	NA	0	0	NA	NA	NA	2	0	0	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	No guy marker No warning sign		
67AA48	0	NA	0	0	NA	0	2	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	No warning sign		
?	0	NA	0	0	NA	0	0	2	0	0	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	No guy marker No warning sign		
																										No number No warning sign		

# OVERHEAD DISTRIBUTION INSPECTION FORM

Date 01-06-03 Inspected by J. Frodl Sub N/A Ckt 153 East

MAP AREA	STRUCTURE													EQUIPMENT				CLEARANCE				COMMENTS	Date Item Corrected	Corrected By					
	Pole Condition/Leaning	Crossarm Condition	Insulators, DE, Pin	Soil Conditions	Pole Steps	Grounds Intact, Molding	Down Guys and Markers	Guy Bond, Insulator	Signs, Lock, Warning	Customer Equipment	Conductor and Ties	U'Guard/Conduit Cond	RFI Check	Transformer	Switches	Cutouts	Arresters	Terminators	Street Light	Tree Trimming	Ground Line Clearances				Building Clearances	Streets, Roads, Alleys	Communication Clearance		
68AA38	0	NA	0	0	0	0	0	0	2	NA	0	0	0	NA	0	0	0	0	NA	0	0	0	0	0	0	0	No warning sign		
68AA28	0	NA	0	0	0	0	NA	NA	2	NA	0	0	0	NA	0	0	0	0	NA	0	0	0	0	0	0	0	No warning sign		
68AA18	0	NA	0	0	0	0	NA	NA	2	NA	0	NA	0	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	No warning sign		
68BB8	0	NA	0	0	0	0	0	0	2	NA	0	NA	0	NA	0	0	0	0	NA	0	0	0	0	0	0	0	No warning sign		
68AA8	0	NA	0	0	0	0	NA	NA	2	NA	0	NA	0	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	No warning sign		
68AA7	0	NA	0	0	0	0	NA	NA	2	NA	0	NA	0	NA	0	0	0	0	NA	0	0	0	0	0	0	0	No warning sign		
58AA77	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	0	0	0	0	NA	0	0	0	0	0	0	0	No warning sign		
68AA6	0	NA	0	0	0	0	0	2	0	2	0	0	0	NA	0	0	0	0	NA	0	0	0	0	0	0	0	No warning sign		
68AA5	0	0	0	0	0	0	0	0	2	0	0	0	0	NA	0	0	0	0	NA	0	0	0	0	0	0	0	No guy marker No warning sign		
58BB75	0	NA	0	0	NA	NA	NA	NA	2	0	0	0	0	NA	0	0	0	0	NA	0	0	0	0	0	0	0	No warning sign		
58AA75	0	0	0	0	0	0	0	0	2	0	0	0	2	NA	0	0	0	0	NA	0	0	0	0	0	0	0	No warning sign		
68BB4	0	NA	0	0	NA	0	0	0	2	0	0	0	0	NA	0	0	0	0	NA	0	0	0	0	0	0	0	No warning sign Check oil		
68BB15	0	NA	0	0	NA	0	0	0	2	0	0	0	0	NA	0	0	0	0	NA	0	0	0	0	0	0	0	No warning sign		
68AA15	0	NA	0	0	NA	0	2	2	0	0	NA	0	NA	0	0	0	0	0	NA	0	0	0	0	0	0	0	No warning sign		
68AA25	2	0	0	0	NA	0	0	0	2	0	0	0	0	NA	0	0	0	0	NA	0	0	0	0	0	0	0	No guy marker No insulator No warning sign		
68AA4	0	NA	0	0	NA	NA	NA	2	0	0	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	Pole leaning Check oil		
																											No warning sign		



# OVERHEAD DISTRIBUTION INSPECTION FORM

Date 01-07-03 Inspected by J. Frodl Sub N/A Ckt 153 East

MAP AREA	STRUCTURE													EQUIPMENT				CLEARANCE				COMMENTS	Date Item Corrected	Corrected By			
	Pole Condition/Leaning	Crossarm Condition	Insulators, DE, Pin	Soil Conditions	Pole Steps	Grounds Intact, Molding	Down Gys and Markers	Guy Bond, Insulator	Signs, Lock#, Warning	Customer Equipment	Conductor and Ties	U'Guard/Conduit Cond	RFI Check	Transformer	Switches	Cutouts	Arresters	Terminators	Street Light	Tree Trimming	Ground Line Clearances				Building Clearances	Streets, Roads, Alleys	Communication Clearance
?	0	0	0	0	NA	0	0	0	2	0	0	0	0	NA	NA	0	0	0	NA	0	0	0	0	0	Rating Criteria 0) Good Condition 1) Good Condition but aging 2) Non-critical Maintenance Required 3) Priority Maintenance Required 4) Urgent Maintenance Required		
?	0	NA	0	0	NA	0	0	0	2	NA	0	0	0	0	NA	0	0	0	NA	0	0	0	0	0	No number No warning sign		
66AA7	0	0	0	0	NA	0	NA	NA	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0	No number No warning sign			
56AA76	0	0	0	0	NA	0	0	0	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0				
66CC6	0	0	0	0	NA	0	0	0	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0				
66BB16	0	0	0	0	NA	0	NA	NA	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0				
66AA16	0	0	0	0	NA	0	0	0	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0				
66AA6	0	0	0	0	NA	0	NA	NA	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0				
66BB5	0	0	0	0	NA	0	0	0	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0				
56AA75	0	NA	0	0	NA	0	0	0	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0				
66AA5	0	0	0	0	NA	0	0	0	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0				
66AA4	0	0	0	0	NA	0	NA	NA	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0				
66AA5	0	0	0	0	NA	0	0	0	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0				
66AA4	0	0	0	0	NA	0	0	0	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0				
66AA3	0	0	0	0	NA	0	0	0	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0				
66AA2	0	0	0	0	NA	0	0	0	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0				